IN THE UNITED STATES DISTRICT COURT
DISTRICT OF NEW JERSEY

WEST-WARD PHARMACEUTICAL CORP.,	)	
Plaintiffs,	)	Case No. _____
v.	)	[JURY TRIAL DEMANDED]
SANDOZ INC. AND AMERICAN REGENT, INC,	)	
Defendants.	)	

COMPLAINT

Plaintiff West-Ward Pharmaceutical Corp. ("West-Ward" or "Plaintiff"), headquartered in Eatontown, Monmouth County, New Jersey, by and through its undersigned counsel, brings this complaint against Defendants Sandoz Inc. ("Sandoz") and American Regent, Inc. ("American Regent") (collectively "Defendants"), in the United States District Court of New Jersey, alleging as follows:

SUMMARY

1. West-Ward brings this action under the Lanham Act, 15 U.S.C. § 1125(a), and the New Jersey law of unfair competition, against the Defendant manufacturers and distributors of injectable phenylephrine products. The Defendants are marketing their products using false, unsupported, and potentially dangerous labels, giving Defendants an unfair competitive advantage over West-Ward in the marketplace for injectable phenylephrine products.

2. West-Ward has invested more than $5.3 million developing its phenylephrine injection product and securing FDA approval. As part of this process, West-Ward updated its

manufacturing processes to current Good Manufacturing Process ("cGMP") standards, consolidated and analyzed scientific literature and safety databases for safety and efficacy reports involving phenylephrine, determined which uses were supported by at least two adequate and well controlled clinical trials, convened a medical advisory panel to advise the FDA on accepted medical uses for phenylephrine, and developed a new label with updated uses, warnings, and instructions that medical professionals can trust when using this complex drug. West-Ward is also in the process of performing an entirely new clinical trial in pediatric patients at an estimated cost of more than $3 million. A copy of the FDA's December 20, 2012, letter approving West-Ward's New Drug Application ("NDA") is attached as Exhibit A. A copy of West-Ward's FDA-approved labeling is attached as Exhibit B.

3. The uses recommended in West-Ward's labeling are scientifically supported and reflect the substantial investment West-Ward has made in its injectable phenylephrine product. In contrast, Defendants have not made the investment necessary to obtain FDA approval or to support their marketing claims.

4. Instead, Defendants are promoting their products for uses that lack any meaningful scientific support, using misleading descriptions of the medical conditions that the drugs are intended to treat, and misstating the safety of their drugs. These false and misleading statements give Defendants an unfair competitive advantage over West-Ward by luring physicians and pharmacists into believing in the truth of, and scientific support for, their product claims.

5. By using these false and misleading labels, Defendants unfairly attract customers to their products, and divert customers from West-Ward's products. True and correct copies of the Defendants' labels are attached as Exhibits C and D.

6. Defendants are also downplaying the safety risks of their drugs. For example, Defendants claim in their label's pharmacology section that "Cardiac irregularities are seen only very rarely even with large doses." This statement is literally false. In fact, numerous cardiac disorders have been reported when using the drug, including bradycardia, AV block, ventricular extrasystoles, and myocardial ischemia.

7. Defendants also misrepresent the safety of their products when they state that a "singular advantage of this drug is that repeated injections produce comparable effect." In fact, there are multiple reports in the scientific literature of repeated injections causing tachyphylaxis, meaning that the response diminishes with each successive dose. By misleading consumers about these safety issues, Defendants are gaining an undue competitive advantage in the marketplace.

8. The Defendants' label also includes excessive dosing recommendations that are creating a dangerous situation. They recommend a dose of 0.2 mg for intravenous administration, and state that this is the "usual" dose administered by doctors, but this statement is patently false. The scientific literature makes clear that the usual dose is less than half the dose recommended by the defendants, or 0.05 to 0.1 mg.

9. Defendants advertise their drugs for a wide variety of medical indications, including:

- the treatment of vascular failure in shock or shock-like states,
- the treatment of vascular failure in drug induced hypotension or hypersensitivity,
- to prolong spinal anesthesia, and
- as a vasoconstrictor in regional anesthesia.

10. Given the official nature of Defendants' labels, with specified "Indications of

Use," numerical dosing instructions, warnings and precautions, and other labeling sections indicative of an FDA-approved label, Defendants are leading consumers to believe that FDA has approved Defendants' labels, and that the labels are supported by adequate scientific studies. However, this is not true; there is no meaningful scientific or clinical evidence to support their claims.

11. In effect, the Defendants are obtaining consumer sales by misleading consumers about the safety and efficacy of their products. Further, Defendants are deriving the benefits of an FDA approved, scientifically supported drug without having done any of the necessary work. This puts patients at risk and West-Ward at a huge competitive disadvantage given the sizeable investment that it has made to secure FDA approval and ensure the accuracy and clinical evidence supporting its label.

12. This action is brought to put a stop to Defendants' false and misleading advertising, and unfair competition in the market for phenylephrine injection vials. West-Ward seeks damages representing the depression in profits and lost sales caused by the Defendants' unapproved products, estimated at approximately $175 million per year, as well as an injunction preventing any further marketing of phenylephrine injection by the Defendants under a label that is untrue and/or inadequately supported by scientific evidence.

PARTIES

13. West-Ward is a manufacturer of generic drugs headquartered in Eatontown, New Jersey, incorporated in Delaware. It is a wholly-owned subsidiary of Hikma PLC ("Hikma"), an international generic drug company headquartered in Amman, Jordan. West-Ward manufactures and distributes phenylephrine injectable vials from its sterile manufacturing facility in Cherry Hill, New Jersey. West-Ward markets and distributes its

drugs throughout the United States.

14. Sandoz is also an international manufacturer and distributer of generic drugs. Sandoz is a corporation incorporated in New Jersey, having a principal place of business in Princeton, New Jersey. On information and belief, Sandoz distributes numerous generic drugs, including unapproved phenylephrine injection vials, throughout the United States, under the labeling that is the subject of this lawsuit. A true and correct copy of Sandoz's labeling for its product is attached as Exhibit C.

15. American Regent is a corporation legally incorporated in New York, having a principal place of business in Shirley, New York. On information and belief, American Regent distributes numerous generic drugs, including unapproved phenylephrine injection vials, throughout the United States under the labeling that is the subject of this lawsuit. A true and correct copy of American Regents' labeling for its product is attached as Exhibit D.

JURISDICTION AND VENUE

16. This Court has jurisdiction over this action under the Lanham Act, 15 U.S.C. § 1121, 28 U.S.C. § 1331 (federal question jurisdiction), 28 U.S.C. § 1338 (action arising under the Lanham Act), and under principles of supplemental jurisdiction. *See* 28 U.S.C. § 1367.

17. This Court has personal jurisdiction over Sandoz by virtue of its physical location in Princeton, New Jersey, and its sale and distribution of phenylephrine vials, among numerous other drug products, within and throughout the State of New Jersey.

18. This Court has personal jurisdiction over American Regent by virtue of its sale and distribution of phenylephrine vials, among numerous other drug products, within and throughout the State of New Jersey.

19. Venue is proper in this District pursuant to 28 U.S.C. §1391(b). The Defendants sell their products in this judicial district, including through distributors, wholesalers, and others, and therefore reside in this judicial district, and a substantial part of the claims arose in this judicial district.

BACKGROUND ALLEGATIONS

20. On information and belief, West-Ward, Sandoz, and American Regent are the only three manufacturers of finished phenylephrine injection vials in the United States. Phenylephrine injection is a vasoconstrictor used to modulate a patient's blood pressure during anesthesia and other hypotensive (low blood pressure) states. The drug is clearly an important drug for the medical profession, but it is not without its risks. More than two thousand adverse events have been reported when using the drug during the past few decades.

21. West-Ward entered the phenylephrine injection market on May 2, 2011 when it purchased Baxter Healthcare's generic injectables business in Cherry Hill, New Jersey. Baxter had committed to securing approval for phenylephrine injection several years earlier and was well underway in its development efforts when West-Ward acquired the facility.

22. By the time West-Ward secured FDA approval on December 20, 2012, it had invested along with Baxter nearly five years and more than $5.3 million dollars in development expenses. West-Ward had updated its manufacturing processes to meet manufacturing standards imposed by current Good Manufacturing Practices (cGMPs). West-Ward had also conducted animal studies, and engaged consultants to consolidate, analyze and interpret practically all available evidence concerning the safe and effective use of phenylephrine from the medical literature, FDA and international safety databases, West-Ward's own history of marketing the product, and the regulatory history of phenylephrine and

related products. West-Ward developed an extensive body of literature supporting the safe and effective use of the drug for specific indications that included the drug's pharmacology and mechanism of action, reports of well-controlled clinical studies supporting the appropriate and accepted medical uses for the drug, and a complete up-to date risk profile for the drug with warnings and drug interactions reported in the literature and safety databases.

23. West-Ward also convened a special meeting of the FDA's Cardiovascular and Renal Drugs Advisory Committee to consider all of this evidence, and to advise the FDA on the suitability of West-Ward's proposed labeling for its product, including West-Ward's proposed indications and instructions for use.

24. The Defendants are marketing their phenylephrine injection products without FDA approval or the scientific support that medical professionals rely upon in purchasing phenylephrine injection products. They market their products under labels that are false, misleading and inconsistent with sound medical practice.

25. Defendants market their products with labels that imply scientific support and FDA approval. However, Defendants have not made the investment necessary to make such claims or lead doctors and consumer to believe that they can support such claims.

26. Despite the fact that Defendants' products are not adequately supported by scientific evidence, and therefore are not burdened by similar development expenses as West-Ward, Defendants are causing healthcare providers to believe that the Defendants' products are supported by scientific evidence and FDA approved. As a result, West-Ward is suffering a competitive disadvantage.

27. These circumstances are also creating a potentially dangerous situation for users of phenylephrine injection, who do not know that the Defendants' labels have never

been approved by FDA, and do not know whose label–West-Ward's or the Defendants'–gives scientifically accurate and clinically justified instructions.

28. This is significant because the Defendants' labels are severely outdated. They include many recommendations that are inconsistent with sound medical practice, and state many supposed "facts" that simply are not true.

29. On information and belief, the Defendants do not have meaningful clinical evidence that their drugs can be used to treat any of the following indications contained in their label:

- vascular failure in shock or shock-like states
- vascular failure in drug induced hypotension or hypersensitivity
- to prolong spinal anesthesia
- as a vasoconstrictor in regional anesthesia.

30. As described above, Defendants' labels also contain erroneous dosing information, wrongly misrepresent safety issues and incorrectly promote their products for repeated injections.

31. The Defendants' labels also state that phenylephrine "is best administered subcutaneously or intramuscularly for use during spinal anesthesia." While subcutaneous or intramuscular injection is certainly possible, neither use is well-supported in the literature or could properly be considered the "best" mode of administration. West-Ward's label was developed after a thorough review of the literature and consultation with the FDA, and it only allows for intravenous administration titrated to a blood pressure target.

32. The Defendant's labels also present a hazard to children. Whereas the Defendants' labels state that "0.5 mg to 1 mg per 25 pounds of body weight" is administered

to children to combat hypotension, a scientifically correctly label would inform physicians that the product's safety and effectiveness in pediatric patients have not been evaluated. The Defendants' labels recommend a therapeutic regimen for children without any meaningful support in the scientific literature. In contrast, West-Ward has committed to a $3 million dollar study in pediatric patients precisely because there is a lack of scientific evidence in this population.

33. The Defendants' labels also omit the vast majority of safety information that has been reported in the medical literature and safety databases over the past several decades for phenylephrine, including more than a half-dozen drugs with which phenylephrine is reported to interact, and numerous side effects that physicians have observed. *Compare* West-Ward Label at section 5 (warning against Exacerbation of Angina, Heart Failure, or Pulmonary Arterial Hypertension; Bradycardia; Risk in Patients with Autonomic Dysfunction; Skin and Subcutaneous Necrosis; Pressor Effect with Concomitant Oxytocic Drugs; Allergic Reactions; Peripheral and Visceral Ischemia; and Renal Toxicity) and Section 7 (warning against drug interactions with Monoamine oxidase inhibitors (MAOI), such as selegiline; β-adrenergic blockers; α-2 adrenergic agonists, such as clonidine; Steroids; Tricyclic antidepressants; Norepinephrine transport inhibitors, such as atomoxetine; Ergot alkaloids, such as methylergonovine maleate; Centrally-acting sympatholytic agents, such as guanfacine or reserpine; and Atropine sulfate) with Defendants' labels.

34. These unsupported and false statements in the Defendants' labels, and the omission of important safety information, compromise the safe and effective use of the Defendants' products, and threaten the health of patients in need of this drug.

35. Further, Defendants are leading healthcare providers to believe that drug

manufacturers have adequate clinical support to make their medically related promotional claims. The medium through which the Defendants promote their products, through an official-looking label that includes all of the hallmarks of clinically substantiated claims, including numeric dosing recommendations, a "clinical" pharmacology section, and references to pre-clinical animal studies, simply amplifies this false impression. Defendants' labeling delivers a message of clinical support that is not true and that violates accepted standards of advertising in the medical community and under the Lanham Act.

36. As a result of their labeling, Defendants are misleading healthcare providers about the appropriate and medically accepted uses for their products, and creating a potentially dangerous situation in the phenylephrine injection market.

37. In addition, West-Ward alleges on information and belief that American Regent is making false claims about the integrity of its product. In particular, American Regent is marketing its product as having a two-year shelf life without having done the work needed to support this claim.

38. American Regents' claim has not been evaluated by the FDA as part of its approval process, and just last year American Regent commissioned a nation-wide recall of its phenylephrine injection vials due to particulates floating in the vials. This is a clear indication that American Regent has not done the work necessary to make a stable product, or to satisfy a two-year shelf life.

39. Once again, the American Regent's false advertising is causing West-Ward irreparable harm and lost sales.

COUNT I
Lanham Act, Section 43(a)
(False Advertising: Unsupported Establishment Claims)

40. West-Ward hereby incorporates and realleges the allegations made in paragraphs 1 through 39 of the Complaint as if fully stated herein.

41. Defendants market their products in interstate commerce.

42. In connection with the sale of those products, the Defendants make numerous claims in their label which, when read in the context of their official-looking labels, indicate that they are supported by clinical and other scientific evidence, including the following claims:

- Defendants' phenylephrine injection is effective in the treatment of vascular failure in shock or shock-like states.
- Defendants' phenylephrine injection is effective in the treatment of vascular failure in drug induced hypotension or hypersensitivity.
- Defendants' phenylephrine injection is effective to prolong spinal anesthesia.
- Defendants' phenylephrine injection is effective as a vasoconstrictor in regional anesthesia.
- The "usual" dose for treating moderate hypotension is 0.2 mg, with a range of from 0.1 to 0.5 mg.
- "Cardiac irregularities are seen only very rarely even with large doses."
- A "singular advantage of phenylephrine injection is that repeated injections produce comparable effect."
- Phenylephrine "is best administered subcutaneously or intramuscularly."
- "0.5 mg to 1 mg per 25 pounds of body weight is administered" to children to combat hypotension.

43. In addition, American Regent advertises a two-year shelf life for its product.

44. Consumers who read these claims, including doctors, pharmacists and other

healthcare providers are led to believe that they are substantiated by meaningful scientific evidence.

45. On information and belief, the Defendants do not have the scientific evidence that consumers expect to support their claims.

46. Defendants' promotional claims violate Section 43(a) of the Lanham Act, which provides in relevant part that:

> [any] person who, or in connection with any goods or services . . . uses in commerce any ... false or misleading description of fact or misleading representation of fact, which ... in commercial advertising or promotion, misrepresents the nature, characteristics, qualities, or geographic origin of his or her or another person's goods, services, or commercial activities, shall be liable to a civil action by any person who believes that he or she is likely to be damaged by such act.

47. Defendants' false, deceptive, and misleading advertising have a material effect on customers' purchasing decisions, have the capacity to deceive customers, and are likely to influence customers' purchasing decisions.

48. By reason of Defendants' conduct, Plaintiff has suffered, and will continue to suffer damage to its ability to compete in the market for phenylephrine injection. Pursuant to 15 U.S.C. § 1117, Plaintiff is entitled to damages for Defendants' Lanham Act violations, an accounting of profits made by Defendants on sales of its illegally marketed products, as well as recovery of costs of this action. Defendants' willful violation of law further entitles Plaintiff to an award of treble damages and attorney fees, pursuant to 15 U.S.C. § 1117.

49. Defendants' false and misleading advertising is causing irreparable harm to Plaintiff, and unless enjoined by this Court will continue to cause it irreparable injury. Pursuant to 15 U.S.C. § 1116, Plaintiff is entitled to permanent injunctive relief to prevent Defendants' continuing acts.

COUNT II
Lanham Act, Section 43(a)
(False Advertising: False or Misleading Statements)

50. West-Ward hereby incorporates and realleges the allegations made in paragraphs 1 through 49 of the Complaint as if fully stated herein.

51. Defendants market their products in interstate commerce.

52. In connection with the sale of those products, Defendants make numerous claims in their label that are literally false and/or misleading, including the following claims:

- The "usual" dose for treating moderate hypotension is 0.2 mg, with a range of from 0.1 to 0.5 mg.
- "Cardiac irregularities are seen only very rarely even with large doses."
- A "singular advantage of phenylephrine injection is that repeated injections produce comparable effect."
- Phenylephrine "is best administered subcutaneously or intramuscularly."

These promotional claims are literally false and/or misleading on their face in violation of Section 43(a) of the Lanham Act.

53. Defendants' false statements have a material effect on customers' purchasing decisions, have the capacity to deceive customers, and are likely to influence customers' purchasing decisions.

54. By reason of Defendants' conduct, Plaintiff has suffered, and will continue to suffer damage to its ability to compete in the market for phenylephrine injection. West-Ward is entitled to damages for Defendants' Lanham Act violations, an accounting of profits made by Defendants on sales of its illegally marketed products, as well as recovery of costs of this action. Defendants' willful violation of law further entitles Plaintiff to an award of treble damages and attorney fees, pursuant to 15 U.S.C. § 1117.

55. Defendants' false and misleading advertising is causing irreparable harm to Plaintiff, and unless enjoined by this Court, will continue to cause it irreparable injury. Pursuant to 15 U.S.C. § 1116, Plaintiff is entitled to permanent injunctive relief to prevent Defendants' continuing acts.

COUNT III
(Unfair Competition - New Jersey Common Law)

56. West-Ward repeats and realleges the allegations of paragraphs 1 through 55 of its Complaint as if fully set forth herein.

57. Through its product labeling, Defendants have made false and misleading explicit and implicit representations to doctors, pharmacists, and other healthcare providers about their products and the appropriate medical uses for their products.

58. Defendants' false and misleading statements are likely to cause confusion, mistake, or deception about the nature, characteristics, and qualities of the Defendants' phenylephrine products.

59. As a result of such conduct, Defendants have caused, and unless enjoined by this Court, will continue to cause consumer confusion as to the appropriateness of dispensing and using Defendants' phenylephrine products, and the conditions under which such products should be used.

60. West-Ward is entitled to damages for Defendants' unfair competition, an accounting of profits made on sales of Defendants' products and recovery of West-Ward's costs of this action.

61. As a result of Defendants' conduct, West-Ward has suffered, and unless such acts and practices are enjoined by the Court, will continue to suffer damage to its business, reputation and goodwill for which it is entitled to relief.

DEMAND

WHEREFORE, West-Ward respectfully requests:

a. An order permanently enjoining the Defendants, along with their agents, servants, employees, attorneys, successors, and assigns, and all others in active concert or participation with them, from directly or indirectly marketing, selling or distributing their phenylephrine products without truthful, accurate, and properly substantiated labeling;

b. An order compelling the Defendants to pay Plaintiff damages in the amount of Plaintiff's actual and consequential damages, equaling the sales lost to Defendants as a result of Defendants' unlawful advertising, and the depression in prices in the phenylephrine injection market caused by the Defendants' unlawful advertising, in an amount to be determined at trial, presently estimated at greater than $175 million per year;

c. An order finding that this is an exceptional case and requiring Defendants to pay Plaintiff additional damages equal to three times the actual damages awarded Plaintiff pursuant to 15 U.S.C. § 1117(a);

d. An order compelling the Defendants to take corrective action to correct any erroneous impression persons may have derived concerning the nature, characteristics or qualities of the Defendants' products including, without limitation, the placement of corrective advertising to notify consumers that the Defendants' products have not been approved by FDA, that their labeling contains false and misleading information;

e. An order requiring Defendants to pay all of Plaintiff's reasonable attorneys' fees, costs and expenses, including those available under 15 U.S.C. § 1117(a) and other applicable law;

f. An order awarding Plaintiff prejudgment and post-judgment interest on any monetary award in this action; and

g. An order awarding Plaintiff such other and further relief as the Court deems just and equitable.

DEMAND FOR JURY TRIAL

Plaintiff demands trial by jury on all issues so triable.

Dated: March 14, 2013

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EXHIBIT A

HIGHLIGHTS OF PRESCRIBING INFORMATION

These highlights do not include all the information needed to use PHENYLEPHRINE HYDROCHLORIDE safely and effectively. See full prescribing information for PHENYLEPHRINE HYDROCHLORIDE.

PHENYLEPHRINE HYDROCHLORIDE injection, for intravenous use
Initial U.S. Approval: 2012

INDICATIONS AND USAGE

Phenylephrine Hydrochloride is an alpha-1 adrenergic receptor agonist indicated for increasing blood pressure in adults with clinically important hypotension resulting primarily from vasodilation, in such settings as septic shock or anesthesia. (1)

DOSAGE AND ADMINISTRATION

Dilute before administration. (2.1)

Dosing for Perioperative Hypotension

- Intravenous bolus administration: 50 mcg to 250 mcg (2.4)
- Intravenous continuous infusion: 0.5 mcg/kg/minute to 1.4 mcg/kg/minute titrated to effect (2.4)

Dosing for Patients with Vasodilatory Shock

- Intravenous continuous infusion: 0.5 mcg/kg/minute to 6 mcg/kg/minute titrated to effect (2.5)

DOSAGE FORMS AND STRENGTHS

Injection: 10 mg/mL supplied as a 1 mL single dose vial (3, 11, 16)

CONTRAINDICATIONS

- Hypersensitivity to it or any of its components (4)

WARNINGS AND PRECAUTIONS

- *Severe bradycardia and decreased cardiac output* (5.2)
- *Extravasation:* during intravenous administration may cause necrosis or sloughing of tissue (5.4)
- *Concomitant use with oxytocic drugs:* pressor effect of sympathomimetic pressor amines is potentiated (5.5)
- *Allergic-type reactions:* Sulfite (5.6)

ADVERSE REACTIONS

Most common adverse reactions: nausea and vomiting, headache, nervousness (6)

To report SUSPECTED ADVERSE REACTIONS, contact West-Ward Pharmaceutical Corp. at 1-877-845-0689 or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.

DRUG INTERACTIONS

- Agonistic effects with monoamine oxidase inhibitors (MAOI), β-adrenergic blocking agents, α-2 adrenergic agonists, steroids, tricyclic antidepressants, norepinephrine transport inhibitors, ergot alkaloids, centrally-acting sympatholytic agents and atropine sulfate (7.1)
- Antagonistic effects on and by α-adrenergic blocking agents (7.2)

See 17 for PATIENT COUNSELING INFORMATION

Revised: December 2012

FULL PRESCRIBING INFORMATION: CONTENTS*

* Sections or subsections omitted from the full prescribing information are not listed

FULL PRESCRIBING INFORMATION

1 INDICATIONS AND USAGE

Phenylephrine Hydrochloride is an alpha-1 adrenergic receptor agonist indicated for increasing blood pressure in adults with clinically important hypotension resulting primarily from vasodilation, in such settings as septic shock or anesthesia.

2 DOSAGE AND ADMINISTRATION

2.1 General Administration Instructions

Phenylephrine hydrochloride must be diluted before administration as bolus intravenous infusion or continuous intravenous infusion.

Inspect the solution for particulate matter and discoloration prior to administration. The diluted solution should not be held for more than 4 hours at room temperature or for more than 24 hours under refrigerated conditions. Discard any unused portion.

During phenylephrine hydrochloride administration:

- Correct intravascular volume depletion.
- Correct acidosis. Acidosis may reduce the effectiveness of phenylephrine.

2.2 Preparing a 100 mcg/mL Solution for Bolus Intravenous Administration

For bolus intravenous administration, withdraw 10 mg (1 mL of a 10 mg/mL concentration) of phenylephrine injection and dilute with 99 mL of 5% Dextrose Injection, USP or 0.9% Sodium Chloride Injection, USP. This will yield a final concentration of 100 mcg/mL. Withdraw an appropriate dose from the 100 mcg/mL solution prior to bolus intravenous administration.

2.3 Preparing a Solution for Continuous Intravenous Infusion

For continuous intravenous infusion, withdraw 10 mg (1 mL of 10 mg/mL concentration) of phenylephrine hydrochloride injection and add to 500 mL of 5% Dextrose Injection, USP or 0.9% Sodium Chloride Injection, USP (providing a final concentration of 20 mcg/mL).

2.4 Dosing for Perioperative Setting

In adult patients undergoing surgical procedures with either neuraxial anesthesia or general anesthesia:

- 50 mcg to 250 mcg by intravenous bolus administration. The most frequently reported initial bolus dose is 50 mcg or 100 mcg.
- 0.5 mcg/kg/min to 1.4 mcg/kg/min by intravenous continuous infusion, titrated to blood pressure goal.

2.5 Dosing for Septic or Other Vasodilatory Shock

In adult patients with septic or other vasodilatory shock:

- No bolus.
- 0.5 mcg/kg/min to 6 mcg/kg/min by intravenous continuous infusion, titrated to blood pressure goal. Doses above 6 mcg/kg/min do not show significant incremental increase in blood pressure.

3 DOSAGE FORMS AND STRENGTHS

Injection: 10 mg/mL phenylephrine hydrochloride is supplied as a 1 mL single dose vial.

4 CONTRAINDICATIONS

The use of phenylephrine hydrochloride is contraindicated in patients with:

- Hypersensitivity to it or any of its components

5 WARNINGS AND PRECAUTIONS

5.1 Exacerbation of Angina, Heart Failure, or Pulmonary Arterial Hypertension

Because of its pressor effects, phenylephrine hydrochloride can precipitate angina in patients with severe arteriosclerosis or history of angina, exacerbate underlying heart failure, and increase pulmonary arterial pressure.

5.2 Bradycardia

Phenylephrine hydrochloride can cause severe bradycardia and decreased cardiac output.

5.3 Risk in Patients with Autonomic Dysfunction

The pressor response to adrenergic drugs, including phenylephrine, can be increased in patients with autonomic dysfunction, as may occur with spinal cord injuries.

5.4 Skin and Subcutaneous Necrosis

Extravasation of phenylephrine can cause necrosis or sloughing of tissue.

5.5 Pressor Effect with Concomitant Oxytocic Drugs

Oxytocic drugs potentiate the pressor effect of sympathomimetic pressor amines including phenylephrine hydrochloride *[see Drug Interactions (7.1)]*, with the potential for hemorrhagic stroke.

5.6 Allergic Reactions

This product contains sodium metabisulfite, a sulfite that may cause allergic-type reactions, including anaphylactic symptoms and life-threatening or less severe asthmatic episodes in certain susceptible people. The overall prevalence of sulfite sensitivity in the general population is unknown and probably low. Sulfite sensitivity is seen more frequently in asthmatic than in nonasthmatic people.

5.7 Peripheral and Visceral Ischemia

Phenylephrine hydrochloride can cause excessive peripheral and visceral vasoconstriction and ischemia to vital organs, particularly in patients with extensive peripheral vascular disease.

5.8 Renal Toxicity

Phenylephrine hydrochloride can increase the need for renal replacement therapy in patients with septic shock. Monitor renal function.

6 ADVERSE REACTIONS

The following adverse reactions associated with the use of phenylephrine hydrochloride were identified in the literature. Because these reactions are reported voluntarily from a population of uncertain size, it is not always possible to estimate their frequency reliably or to establish a causal relationship to drug exposure.

Cardiac disorders: Bradycardia, AV block, ventricular extrasystoles, myocardial ischemia

Gastrointestinal disorders: Nausea, vomiting

General disorders and administrative site conditions: Chest pain, extravasation

Immune system disorders: Sulfite sensitivity

Nervous system disorders: Headache, nervousness, paresthesia, tremor

Psychiatric disorders: Excitability

Respiratory: Pulmonary edema, rales

Skin and subcutaneous tissue disorders: Diaphoresis, pallor, piloerection, skin blanching, skin necrosis with extravasation

Vascular disorders: Hypertensive crisis

7 DRUG INTERACTIONS

7.1 Agonists

The pressor effect of phenylephrine hydrochloride is *increased* in patients receiving:

- Monoamine oxidase inhibitors (MAOI), such as selegiline.
- β-adrenergic blockers
- α-2 adrenergic agonists, such as clonidine
- Steroids
- Tricyclic antidepressants
- Norepinephrine transport inhibitors, such as atomoxetine
- Ergot alkaloids, such as methylergonovine maleate
- Centrally-acting sympatholytic agents, such as guanfacine or reserpine
- Atropine sulfate

7.2 Antagonists

α-adrenergic blocking agents, including phenothiazines (e.g., chlorpromazine) and amiodarone block phenylephrine and are in turn blocked by phenylephrine.

8 USE IN SPECIFIC POPULATIONS

8.1 Pregnancy

Pregnancy Category C

Animal reproduction studies have not been conducted with intravenous phenylephrine. It is also not known whether phenylephrine can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. Phenylephrine hydrochloride should be given to a pregnant woman only if clearly needed.

8.2 Labor and Delivery

The most common maternal adverse reactions reported in studies of phenylephrine use during neuraxial anesthesia during cesarean delivery include nausea and vomiting, which are commonly associated with hypotension, bradycardia, reactive hypertension, and transient arrhythmias. Phenylephrine does not appear to cause a decrease in placental perfusion sufficient to alter either the neonate Apgar scores or blood-gas status.

8.3 Nursing Mothers

It is not known whether this drug is excreted in human milk.

8.4 Pediatric Use

Safety and effectiveness in pediatric patients have not been established.

8.5 Geriatric Use

Clinical studies of phenylephrine did not include sufficient numbers of subjects aged 65 and over to determine whether they respond differently from younger subjects. Other reported clinical experience has not identified differences in responses between the elderly and younger patients. In general, dose selection for an elderly patient should be cautious, usually starting at the low end of the dosing range, reflecting the greater frequency of decreased hepatic, renal, or cardiac function, and of concomitant disease or other drug therapy.

8.6 Hepatic Impairment

In patients with liver cirrhosis [Child Pugh Class A (n=3), Class B (n=5) and Class C (n=1)], dose-response data indicate decreased responsiveness to phenylephrine. Consider using larger doses than usual in hepatic impaired subjects.

8.7 Renal Impairment

In patients with end stage renal disease (ESRD) undergoing hemodialysis, dose-response data indicates increased responsiveness to phenylephrine. Consider using lower doses of phenylephrine hydrochloride in ESRD patients.

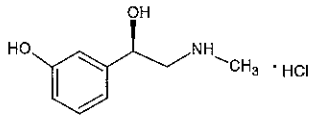
10 OVERDOSAGE

Overdose of phenylephrine hydrochloride can cause a rapid rise in blood pressure. Symptoms of overdose include headache, vomiting, hypertension, reflex bradycardia, and cardiac arrhythmias including ventricular extrasystoles and ventricular tachycardia, and may cause a sensation of fullness in the head and tingling of the extremities.

Consider using an α-adrenergic antagonist.

11 DESCRIPTION

Phenylephrine hydrochloride is a synthetic sympathomimetic agent in sterile form for parenteral injection. Chemically, phenylephrine hydrochloride is (-)-*m*-Hydroxy-α-[(methylamino)methyl]benzyl alcohol hydrochloride and has the following structural formula:



Phenylephrine hydrochloride is very soluble in water, freely soluble in ethanol, and insoluble in chloroform and ethyl ether. Phenylephrine hydrochloride is sensitive to light.

Phenylephrine Hydrochloride Injection, USP is a clear, colorless, aqueous solution that is essentially free of visible foreign matter. Each mL contains: Phenylephrine Hydrochloride 10 mg; Sodium Chloride 3.5 mg; Sodium Citrate Dihydrate 4 mg; Citric Acid Monohydrate 1 mg; and Sodium Metabisulfite 2 mg in water for injection. The pH may be adjusted in the range of 3.0 to 6.5 with Sodium Hydroxide and/or Hydrochloric Acid, if necessary.

12 CLINICAL PHARMACOLOGY

12.1 Mechanism of Action

Phenylephrine hydrochloride is an α-1 adrenergic receptor agonist.

12.2 Pharmacodynamics

Phenylephrine is the active moiety. Metabolites are inactive at both the α-1and α-2 adrenergic receptors. Following parenteral administration of phenylephrine hydrochloride, increases in systolic blood pressure, diastolic blood pressure, mean arterial blood pressure, and total peripheral vascular resistance are observed. The onset of blood pressure increase following an intravenous bolus phenylephrine hydrochloride administration is rapid and the effect may persist for up to 20 minutes. As mean arterial pressure increases following parenteral doses, vagal activity also increases, resulting in reflex bradycardia.

Most vascular beds are constricted, including renal, splanchnic, and hepatic.

12.3 Pharmacokinetics

Following an intravenous infusion of phenylephrine hydrochloride, the effective half-life was approximately 5 minutes. The steady-state volume of distribution (340 L) exceeded the body volume by a factor of 5, suggesting a high distribution into certain organ compartments. The average total serum clearance (2095 mL/min) was close to one-third of the cardiac output.

A mass balance study showed that phenylephrine is extensively metabolized by the liver with only 12% of the dose excreted unchanged in the urine. Deamination by monoamino oxidase is the primary metabolic pathway resulting in the formation of the major metabolite (m-hydroxymandelic acid) which accounts for 57% of the total administered dose.

14 CLINICAL STUDIES

Increases in systolic and mean blood pressure following administration of phenylephrine were observed in 42 literature-based studies in the perioperative setting, including 26 studies where phenylephrine was used in low-risk (ASA 1 and 2) pregnant women undergoing neuraxial anesthesia during cesarean delivery, 3 studies in non-obstetric surgery under neuraxial anesthesia, and 13 studies in patients undergoing surgery under general anesthesia. Mean arterial blood pressure increases were also observed in two double-blind, active-controlled studies in patients with septic shock.

16 HOW SUPPLIED/STORAGE AND HANDLING

Phenylephrine Hydrochloride Injection, USP, is supplied as follows:

- NDC 0641-6142-25: 1 mL single dose vials packaged in cartons containing 25 vials per carton.

Store at 20°C to 25°C (68°F to 77°F), excursions permitted to 15°C to 30°C (59°F to 86°F) [See USP Controlled Room Temperature]. Protect from light. Keep covered in carton until time of use. For single use only. Discard unused portion.

17 PATIENT COUNSELING INFORMATION

Inform patients, families, or caregivers that the primary side effect of phenylephrine is hypertension and rarely, hypertensive crisis. Patients may experience bradycardia (slow heart rate), which in some cases may produce

heart block or other cardiac arrhythmias, extra ventricular beats, myocardial ischemia in patients with underlying cardiac disease, and pulmonary edema (fluid in the lungs) or rales. Common, less serious symptoms include the following:

- chest pain
- skin or tissue damage if the drug leaks out of the venous catheter into the surrounding tissue
- headache, nervousness, tremor, numbness/tingling (paresthesias) in hands or feet
- nausea, vomiting
- excitability, dizziness, sweating, flushing

Manufactured by:

WEST-WARD

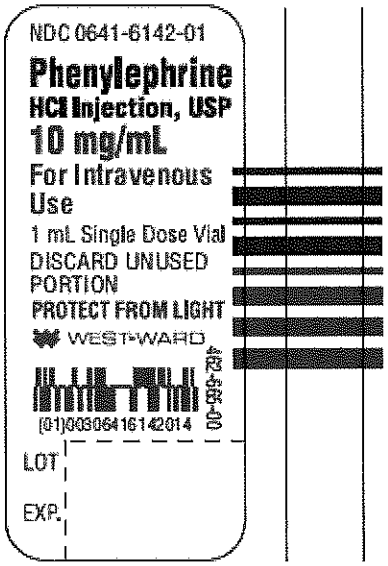
PHARMACEUTICALS

Eatontown, NJ 07724 USA

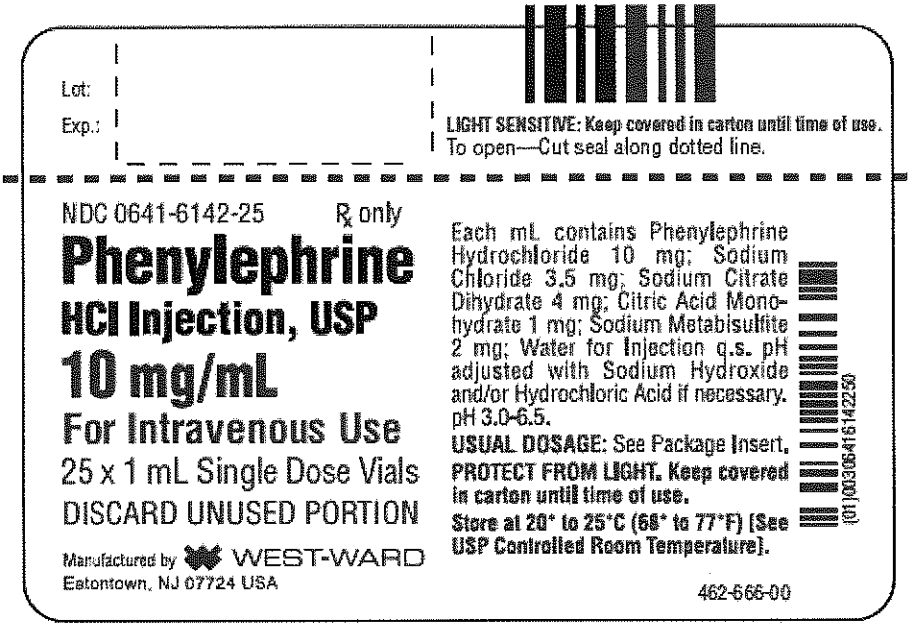
Revised: December 2012 462-664-00

Draft Container and Carton Labels

Container Label (150%)



Carton (150%)


Lot:
Exp.:
LIGHT SENSITIVE: Keep covered in carton until time of use.
To open—Cut seal along dotted line.
NDC 0641-6142-25
℞ only
Phenylephrine
HCl Injection, USP
10 mg/mL
For Intravenous Use
25 x 1 mL Single Dose Vials
DISCARD UNUSED PORTION
Manufactured by WEST-WARD
Eatontown, NJ 07724 USA
Each mL contains Phenylephrine Hydrochloride 10 mg; Sodium Chloride 3.5 mg; Sodium Citrate Dihydrate 4 mg; Citric Acid Monohydrate 1 mg; Sodium Metabisulfite 2 mg; Water for Injection q.s. pH adjusted with Sodium Hydroxide and/or Hydrochloric Acid if necessary. pH 3.0-6.5.
USUAL DOSAGE: See Package Insert.
PROTECT FROM LIGHT. Keep covered in carton until time of use.
Store at 20° to 25°C (68° to 77°F) [See USP Controlled Room Temperature].
462-666-00
(01)00306416142250

This is a representation of an electronic record that was signed electronically and this page is the manifestation of the electronic signature.

/s/

NORMAN L STOCKBRIDGE
12/20/2012

EXHIBIT B

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Food and Drug Administration
Silver Spring MD 20993

NDA 203826

NDA APPROVAL

West-Ward Pharmaceutical Corp.
Attention: Mr. J. Barton Kalis
Director, Regulatory Affairs
2 Esterbrook Lane
Cherry Hill, NJ 08003

Dear Mr. Kalis:

Please refer to your New Drug Application (NDA) dated December 28, 2011, received January 12, 2012 (user fee receipt date), submitted pursuant to section 505(b)(2) of the Federal Food, Drug, and Cosmetic Act, for Phenylephrine Hydrochloride Injection, 10 mg/mL.

We acknowledge receipt of your amendments dated March 1, April 24 and 27, May 21, July 18, September 28, October 11,16, 23, 25, 26, November 6 (two) and 29, and December 13 and 19, 2012.

The November 29, 2012 submission constituted a complete response to our November 9, 2012 action letter.

This new drug application provides for the use of Phenylephrine Hydrochloride Injection, 10 mg/mL, for increasing blood pressure in adults with clinically important hypotension resulting primarily from vasodilation, in such settings as septic shock or anesthesia.

We have completed our review of this application, as amended. It is approved, effective on the date of this letter, for use as recommended in the enclosed, agreed-upon labeling text.

CONTENT OF LABELING

As soon as possible, but no later than 14 days from the date of this letter, submit the content of labeling [21 CFR 314.50(l)] in structured product labeling (SPL) format using the FDA automated drug registration and listing system (eLIST), as described at http://www.fda.gov/ForIndustry/DataStandards/StructuredProductLabeling/default.htm. Content of labeling must be identical to the enclosed labeling (text for the package insert). Information on submitting SPL files using eLIST may be found in the guidance for industry titled "SPL Standard for Content of Labeling Technical Qs and As" at http://www.fda.gov/downloads/Drugs/GuidanceComplianceRegulatoryInformation/Guidances/UCM072392.pdf.

The SPL will be accessible via publicly available labeling repositories.

CARTON AND IMMEDIATE CONTAINER LABELS

Submit final printed carton and container labels that are identical to the enclosed carton and immediate container labels submitted on October 23, 2012, as soon as they are available, but no more than 30 days

after they are printed. Please submit these labels electronically according to the guidance for industry titled "Providing Regulatory Submissions in Electronic Format – Human Pharmaceutical Product Applications and Related Submissions Using the eCTD Specifications (June 2008)." Alternatively, you may submit 12 paper copies, with 6 of the copies individually mounted on heavy-weight paper or similar material. For administrative purposes, designate this submission "**Final Printed Carton and Container Labels for approved NDA 203826.**" Approval of this submission by FDA is not required before the labeling is used.

Marketing the product with FPL that is not identical to the approved labeling text may render the product misbranded and an unapproved new drug.

MARKET PACKAGE

Please submit one market package of the drug product when it is available to the following address:

Quynh Nguyen, Pharm.D., RAC
Food and Drug Administration
Center for Drug Evaluation and Research
White Oak Building 22, Room: 4119
10903 New Hampshire Avenue
Silver Spring, Maryland
Use zip code **20903** *if shipping via United States Postal Service (USPS).*
Use zip code **20993** *if sending via any carrier other than USPS (e.g., UPS, DHL, FedEx)*

PROPRIETARY NAME

If you intend to have a proprietary name for this product, the name and its use in the labels must conform to the specifications under 21 CFR 201.10 and 201.15. We recommend that you submit a request for a proposed proprietary name review. (See the guidance for industry titled, "Contents of a Complete Submission for the Evaluation of Proprietary Names", at http://www.fda.gov/downloads/Drugs/GuidanceComplianceRegulatoryInformation/Guidances/ucm075068.pdf and "PDUFA Reauthorization Performance Goals and Procedures Fiscal Years 2008 through 2012".)

REQUIRED PEDIATRIC ASSESSMENTS

Under the Pediatric Research Equity Act (PREA) (21 U.S.C. 355c), all applications for new active ingredients, new indications, new dosage forms, new dosing regimens, or new routes of administration are required to contain an assessment of the safety and effectiveness of the product for the claimed indication(s) in pediatric patients unless this requirement is waived, deferred, or inapplicable.

We are waiving the pediatric study requirement for ages 0 to <12 years because necessary studies are impossible or highly impracticable. This is because:

1. While pediatric patients aged 0 to <12 years receive neuraxial anesthesia, they tend not to develop clinically significant hypotension as a result of anesthestic-induced vasodilatation.

2. In addition, the cardiac output of younger pediatric patients is heart rate-dependent, and administration of an alpha-1-receptor agonist would cause a reflex bradycardia, potentially decreasing the pediatric patient's cardiac output and oxygen delivery. More likely interventions, especially in children under 6 years, would be fluid administration, decreasing anesthetic concentration, or administration of a drug with beta-agonist effects, thereby increasing heart rate.

We are deferring submission of your pediatric study for ages ≥12 to 16 years for this application because this product is ready for approval for use in adults and the pediatric study has not been completed.

Your deferred pediatric study required by section 505B(a) of the Federal Food, Drug, and Cosmetic Act is a required postmarketing study. The status of this postmarketing study must be reported annually according to 21 CFR 314.81 and section 505B(a)(3)(B) of the Federal Food, Drug, and Cosmetic Act. This required study is listed below.

1991-1 Conduct a trial in the ≥12 - 16 year old age group to evaluate the dose effect of phenylephrine hydrochloride injection on blood pressure in patients undergoing general anesthesia and neuroaxial anesthesia. Administration by both the bolus and infusion methods must be studied for the treatment of hypotension. Dosing of phenylephrine should be weight-based since weight may be quite variable in this population. The study should include 50 subjects in the bolus treatment group and 50 subjects in the infusion treatment group. The study should capture, at a minimum, the following information:

- Demographic and medical history information that informs about the subjects' cardiovascular status.
- Concomitant intraoperative and post-operative medications, including their doses and adjustments in inhaled gas concentration or intravenous agent infusion rates.
- Interventions used to treat the hypotension, e.g., other pressor agents, intravenous fluid boluses, changes in patient positioning.
- Intraoperative events relevant to subjects' physiological status, such as blood loss and fluids administered.
- Blood pressures and heart rate, time to onset and maximal response and duration of response should be defined and captured before and during the treatment.
- Pharmacokinetics of the proposed product need to be characterized at points relative to the phenylephrine administration.

In your protocol, propose a means of reporting safety data in the ≥12 - 16 year old age group that best informs the prescriber about the risk:benefit of different dose levels of phenylephrine.

The timetable you submitted on November 29, 2012 states that you will conduct this study according to the following schedule:

Final Protocol Submission:	December 20, 2013
Trial Completion:	December 20, 2016
Final Report Submission:	May 23, 2017

Submit the protocol(s) to your IND, with a cross-reference letter to this NDA.

Reports of this required pediatric postmarketing study must be submitted as a new drug application (NDA) or as a supplement to your approved NDA with the proposed labeling changes you believe are warranted based on the data derived from these studies. When submitting the reports, please clearly mark your submission "**SUBMISSION OF REQUIRED PEDIATRIC ASSESSMENTS**" in large font, bolded type at the beginning of the cover letter of the submission.

POSTMARKETING COMMITMENTS NOT SUBJECT TO THE REPORTING REQUIREMENTS UNDER SECTION 506B

We remind you of your postmarketing commitment:

1991-2 The package insert provides dosing for intravenous bolus ranging from 40 mcg to 250 mcg. Currently, only a single concentration of 10 mg/mL is approved. In order to achieve doses as small as 40 mcg to 250 mcg, one or more dilutions would need to be performed by a pharmacist or technician, which introduces opportunity for calculation and compounding confusion that can lead to dosing errors. For this reason, we request that you develop an appropriate ready-to-use concentration and packaging configuration to administer the approved intravenous bolus doses. A ready-to-use concentration and packaging configuration will help mitigate the risks of calculation and compounding errors as well as unsafe sterile technique and injection practices. In order to guide the development of an appropriate ready-to-use product for intravenous bolus administration, an appropriate methodology such as a risk assessment, utilizing a recognized risk assessment tool (e.g., Failure Mode and Effects Analysis), should be conducted by a multidisciplinary team. Based on your study results, we request you submit a prior approval supplement to support the approval of a ready-to-use formulation and concentration of phenylephrine hydrochloride appropriate for intravenous bolus administration.

The timetable you submitted on November 6, 2012 states that you will conduct this study according to the following schedule:

Final Report Date:	August 12, 2013
Prior Approval Supplement Submission Date:	June 30, 2014

Submit clinical protocols to your IND for this product and all study final reports to this NDA. In addition, under 21 CFR 314.81(b)(2)(vii) and 314.81(b)(2)(viii) you should include a status summary of each commitment in your annual report to this NDA. The status summary should include expected summary completion and final report submission dates, any changes in plans since the last annual report, and, for clinical studies/trials, number of patients entered into each study/trial. All submissions, including supplements, relating to these postmarketing commitments should be prominently labeled

"Postmarketing Commitment Protocol," "Postmarketing Commitment Final Report," or **"Postmarketing Commitment Correspondence."**

PROMOTIONAL MATERIALS

You may request advisory comments on proposed introductory advertising and promotional labeling. To do so, submit, in triplicate, a cover letter requesting advisory comments, the proposed materials in draft or mock-up form with annotated references, and the package insert to:

Food and Drug Administration
Center for Drug Evaluation and Research
Office of Prescription Drug Promotion
5901-B Ammendale Road
Beltsville, MD 20705-1266

As required under 21 CFR 314.81(b)(3)(i), you must submit final promotional materials, and the package insert, at the time of initial dissemination or publication, accompanied by a Form FDA 2253. For instruction on completing the Form FDA 2253, see page 2 of the Form. For more information about submission of promotional materials to the Office of Prescription Drug Promotion (OPDP), see http://www.fda.gov/AboutFDA/CentersOffices/CDER/ucm090142.htm.

REPORTING REQUIREMENTS

We remind you that you must comply with reporting requirements for an approved NDA (21 CFR 314.80 and 314.81).

If you have any questions, please contact:

Quynh Nguyen, Pharm.D., RAC
Regulatory Health Project Manager
(301) 796-0510

Sincerely,

{See appended electronic signature page}

Norman Stockbridge, M.D., Ph.D.
Director
Division of Cardiovascular and Renal Products
Office of Drug Evaluation I
Center for Drug Evaluation and Research

ENCLOSURES:
Content of Labeling
Carton and Container Labeling

EXHIBIT C

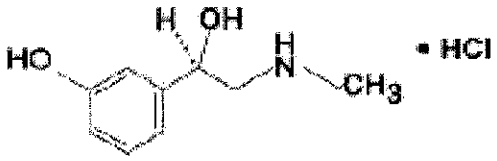
PHENYLEPHRINE HYDROCHLORIDE - phenylephrine hydrochloride injection, solution
Sandoz Inc.

Rx only
CONTAINS NO ANTIMICROBIAL PRESERVATIVE

WARNING
PHYSICIANS SHOULD COMPLETELY FAMILIARIZE THEMSELVES WITH THE COMPLETE CONTENTS OF THIS INSERT BEFORE PRESCRIBING PHENYLEPHRINE HYDROCHLORIDE INJECTION, USP.

DESCRIPTION

Phenylephrine Hydrochloride, a synthetic sympathomimetic agent, is a vasoconstrictor and pressor drug chemically related to epinephrine and ephedrine that is available as a sterile solution for parenteral injection. Each mL contains: phenylephrine HCl 10 mg, sodium metabisulfite 2 mg, sodium chloride 3.5 mg, sodium citrate (dihydrate) 4 mg, citric acid (anhydrous) 0.914 mg, water for injection q.s. pH (between 3.0 and 6.5) adjusted with citric acid and/or sodium hydroxide. Chemically, it is (-) - *m* - Hydroxy - α - [(methylamino)methyl] benzyl alcohol hydrochloride. The structural formula is as follows:



Molecular Formula: $C_9H_{13}NO_2 \cdot HCl$ Molecular Weight: 203.67

CLINICAL PHARMACOLOGY

Phenylephrine hydrochloride produces vasoconstriction that lasts longer than that of epinephrine and ephedrine. Responses are more sustained than those of epinephrine, lasting 20 minutes after intravenous and as long as 50 minutes after subcutaneous injection. Its action on the heart contrasts sharply with that of epinephrine and ephedrine, in that it slows the heart rate and increases the stroke output, producing no disturbance in the rhythm of the pulse.

Phenylephrine is a powerful postsynaptic alpha-receptor stimulant with little effect on the beta receptors of the heart. In therapeutic doses, it produces little if any stimulation of either the spinal cord or cerebrum. A singular advantage of this drug is the fact that repeated injections produce comparable effects.

The predominant actions of phenylephrine are on the cardiovascular system. Parenteral administration causes a rise in systolic and diastolic pressures in man and other species. Accompanying the pressor response to phenylephrine is a marked reflex bradycardia that can be blocked by atropine; after atropine, large doses of the drug increase the heart rate only slightly. In man, cardiac output is slightly decreased and peripheral resistance is considerably increased. Circulation time is slightly prolonged, and venous pressure is slightly increased; venous constriction is not marked. Most vascular beds are constricted; renal, splanchnic, cutaneous, and limb blood flows are reduced but coronary blood flow is increased. Pulmonary vessels are constricted, and pulmonary arterial pressure is raised. The drug is a powerful vasoconstrictor, with properties very similar to those of norepinephrine but almost completely lacking the chronotropic and inotropic actions on the heart. Cardiac irregularities are seen only very rarely even with large doses.

INDICATIONS AND USAGE

Phenylephrine hydrochloride is intended for the maintenance of an adequate level of blood pressure during spinal and inhalation anesthesia and for the treatment of vascular failure in shock, shocklike states, and drug-induced hypotension, or hypersensitivity. It is also employed to overcome paroxysmal supraventricular tachycardia, to prolong spinal anesthesia, and as a vasoconstrictor in regional analgesia.

CONTRAINDICATIONS

Phenylephrine hydrochloride should not be used in patients with severe hypertension, ventricular tachycardia, or in patients who are hypersensitive to it or to any of the components.

WARNINGS

If used in conjunction with oxytocic drugs, the pressor effect of sympathomimetic pressor amines is potentiated (see *Drug Interactions*). The obstetrician should be warned that some oxytocic drugs may cause severe persistent hypertension and that even a rupture of a cerebral blood vessel may occur during the postpartum period.

This product contains sodium metabisulfite, a sulfite that may cause allergic-type reactions including anaphylactic symptoms and life-threatening or less severe asthmatic episodes in certain susceptible people. The overall prevalence of sulfite sensitivity in the general population is unknown and probably low. Sulfite sensitivity is seen more frequently in asthmatic than in nonasthmatic people.

PRECAUTIONS
Phenylephrine hydrochloride should be employed only with extreme caution in elderly patients or in patients with hyperthyroidism, bradycardia, partial heart block, myocardial disease, or severe arteriosclerosis.

Drug Interactions
Vasopressors, particularly metaraminol, may cause serious cardiac arrhythmias during halothane anesthesia and therefore should be used only with great caution or not at all.

MAO Inhibitors
The pressor effect of sympathomimetic pressor amines is markedly potentiated in patients receiving monoamine oxidase inhibitors (MAOI). Therefore, when initiating pressor therapy in these patients, the initial dose should be small and used with due caution. The pressor response of adrenergic agents may also be potentiated by tricyclic antidepressants.

Carcinogenesis, Mutagenesis, Impairment of Fertility
No long-term animal studies have been done to evaluate the potential of phenylephrine hydrochloride in these areas.

Pregnancy

Teratogenic Effects

Pregnancy Category C
Animal reproduction studies have not been conducted with phenylephrine hydrochloride. It is also not known whether phenylephrine hydrochloride can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. Phenylephrine hydrochloride should be given to a pregnant woman only if clearly needed.

Labor and Delivery
If vasopressor drugs are either used to correct hypotension or added to the local anesthetic solution, the obstetrician should be cautioned that some oxytocic drugs may cause severe persistent hypertension and that a rupture of a cerebral blood vessel may occur during the postpartum period (see **WARNINGS**).

Nursing Mother
It is not known whether this drug is excreted in human milk. Because many are excreted in human milk, caution should be exercised when phenylephrine hydrochloride is administered to a nursing woman.

Pediatric Use
To combat hypotension during spinal anesthesia in children, a dose of 0.5 mg to 1 mg per 25 pounds of body weight, administered subcutaneously or intramuscularly, is recommended.

ADVERSE REACTIONS
Headache, reflex bradycardia, excitability, restlessness, and rarely arrhythmias.

OVERDOSAGE
Overdosage may induce ventricular extrasystoles and short paroxysms of ventricular tachycardia, a sensation of fullness in the head and tingling of the extremities.
Should an excessive elevation of blood pressure occur, it may be immediately relieved by an α– adrenergic blocking agent (e.g., phentolamine).
The oral LD_{50} in the rat is 350 mg/kg, in the mouse 120 mg/kg.

DOSAGE AND ADMINISTRATION
Phenylephrine hydrochloride is generally injected subcutaneously, intramuscularly, slowly intravenously, or in dilute solution as a continuous intravenous infusion. In patients with paroxysmal supraventricular tachycardia and, if indicated, in case of emergency, phenylephrine hydrochloride is administered directly intravenously. The dose should be adjusted according to the pressor response.
Dosage Calculations

Dose Required	*Use Phenylephrine HCl Injection 1%*
10 mg	1 mL
5 mg	0.5 mL
1 mg	0.1 mL

For convenience in intermittent intravenous administration, dilute 1 mL phenylephrine hydrochloride 1% with 9 mL Sterile Water for Injection, USP, to yield 0.1% phenylephrine hydrochloride.

Dose Required	*Use Diluted Phenylephrine HCl Injection 1%*
0.1 mg	0.1 mL
0.2 mg	0.2 mL
0.5 mg	0.5 mL

Mild or Moderate Hypotension
Subcutaneously or Intramuscularly: Usual dose, from 2 mg to 5 mg. Range, from 1 mg to 10 mg. Initial dose should not exceed 5 mg.
Intravenously: Usual dose, 0.2 mg. Range, from 0.1 mg to 0.5 mg. Initial dose should not exceed 0.5 mg.
Injections should not be repeated more often than every 10 to 15 minutes. A 5 mg intramuscular dose should raise blood pressure for one to two hours. A 0.5 mg intravenous dose should elevate the pressure for about 15 minutes.

Severe Hypotension and Shock – Including Drug-Related Hypotension
Blood volume depletion should always be corrected as fully as possible before any vasopressor is administered. When, as an emergency measure, intra-aortic pressures must be maintained to prevent cerebral or coronary artery ischemia, phenylephrine hydrochloride can be administered before and concurrently with blood volume replacement.
Hypotension and occasionally severe shock may result from overdosage or idiosyncrasy following the administration of certain drugs, especially adrenergic and ganglionic blocking agents, rauwolfia and veratrum alkaloids, and phenothiazine tranquilizers. Patients who receive a phenothiazine derivative as preoperative medication are especially susceptible to these reactions. As an adjunct in the management of such episodes, phenylephrine hydrochloride is a suitable agent for restoring blood pressure.
Higher initial and maintenance doses of phenylephrine hydrochloride are required in patients with persistent or untreated severe hypotension or shock. Hypotension produced by powerful peripheral adrenergic blocking agents, chlorpromazine, or pheochromocytomectomy may also require more intensive therapy.

Continuous Infusion
Add 10 mg of the drug (1 mL of 1 percent solution) to 500 mL of Dextrose Injection, USP, or Sodium Chloride Injection, USP (providing a 1:50,000 solution). To raise the blood pressure rapidly, start the infusion at about 100 μg to 180 μg per minute (based on 20 drops per mL this would be 100 to 180 drops per minute). When the blood pressure is stabilized (at a low normal level for the individual) a maintenance rate of 40 μg to 60 μg per minute usually suffices (based on 20 drops per mL this would be 40 to 60 drops per minute). If the drop size of the infusion system varies from the 20 drops per mL, the dose must be adjusted accordingly.

If a prompt initial pressor response is not obtained, additional increments of phenylephrine hydrochloride (10 mg or more) are added to the infusion bottle. The rate of flow is then adjusted until the desired blood pressure level is obtained. (In some cases, a more potent vasopressor, such as norepinephrine bitartrate, may be required.) Hypertension should be avoided. The blood pressure should be checked frequently. Headache and/or bradycardia may indicate hypertension. Arrhythmias are rare.

Spinal Anesthesia – Hypotension
Routine parenteral use of phenylephrine hydrochloride has been recommended for the prophylaxis and treatment of hypotension during spinal anesthesia. It is best administered subcutaneously or intramuscularly three or four minutes before injection of the spinal anesthetic. The total requirement for high anesthetic levels is usually 3 mg, and for lower levels, 2 mg. For hypotensive emergencies during spinal anesthesia, phenylephrine hydrochloride may be injected intravenously, using an initial dose of 0.2 mg. Any subsequent dose should not exceed the previous dose by more than 0.1 mg to 0.2 mg and no more than 0.5 mg should be administered in a single dose. To combat hypotension during spinal anesthesia in children, a dose of 0.5 mg to 1 mg per 25 pounds body weight, administered subcutaneously or intramuscularly, is recommended.

Prolongation of Spinal Anesthesia
The addition of 2 mg to 5 mg of phenylephrine hydrochloride to the anesthetic solution increases the duration of motor block by as much as approximately 50 percent without any increase in the incidence of complications such as nausea, vomiting, or blood pressure disturbances.

Vasoconstrictor for Regional Analgesia
Concentrations about ten times those employed when epinephrine is used as a vasoconstrictor are recommended. The optimum strength is 1:20,000 (made by adding 1 mg of phenylephrine hydrochloride to every 20 mL of local anesthetic solution). Some pressor responses can be expected when 2 mg or more are injected.

Paroxysmal Supraventricular Tachycardia
Rapid intravenous injection (within 20 to 30 seconds) is recommended; the initial dose should not exceed 0.5 mg, and subsequent doses, which are determined by the initial blood pressure response, should not exceed the preceding dose by more than 0.1 mg to 0.2 mg, and should never exceed 1 mg.

DIRECTIONS FOR PROPER USE OF PHARMACY BULK PACKAGE

The pharmacy bulk package is for use in a Pharmacy Admixture Service only.

Use of this product is restricted to a suitable work area, such as a laminar flow hood. Prior to entering the vial, remove the flip-off seal and cleanse the rubber closure with a suitable antiseptic agent.

The container closure may be penetrated only one time, utilizing a suitable sterile transfer device or dispensing set which allows measured distribution of the contents. The date and time the vial was initially opened should be recorded. For dilution, transfer individual dose(s) to appropriate volume(s) of Sterile Water for Injection, USP for intravenous solutions. Use of a syringe with needle is not recommended. Multiple entries increase the potential of microbial and particulate contamination.

The withdrawal of container contents should be accomplished without delay using aseptic technique. However, should this not be possible, a maximum time of 4 hours from initial closure entry is permitted to complete fluid transfer operations.

HOW SUPPLIED

Phenylephrine HCl Injection, USP 1% (10 mg/mL) is supplied as follows:

NDC Number	Volume
66758-016-03	5 mL vial*
66758-016-04	25 × 5 mL vial*
66758-017-01	10 mL vial*

FOR PHARMACY USE ONLY

Store at controlled room temperature 15° -30°C (59° -86°F) (See USP).

Protect from light. FOR SINGLE USE ONLY. Discard unused portion.

For Sandoz Inc. Customer Service, call 1-800-525-8747.

Manufactured for:

SANDOZ

Princeton, NJ 08540

L-030-00

PRINCIPAL DISPLAY PANEL - 5 ML VIAL CARTON

SANDOZ

25 × 5 mL Vials

NDC 66758-016-04

Phenylephrine Hydrochloride

Injection, USP

1% (10 mg/mL) (50 mg/5 mL)

For Pharmacy Use Only

Rx only

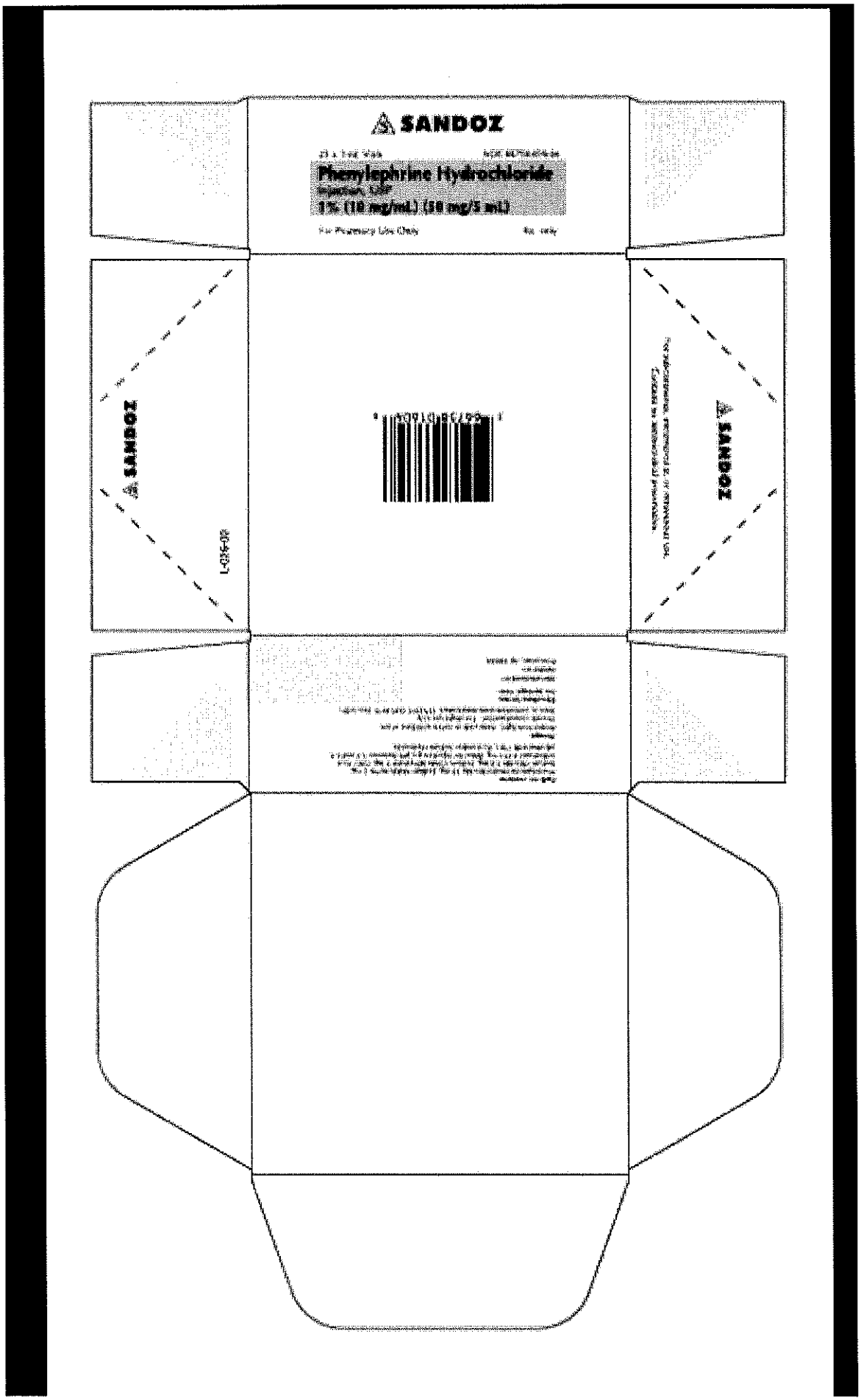

SANDOZ
Phenylephrine Hydrochloride
1% (10 mg/mL) (50 mg/5 mL)
SANDOZ
SANDOZ

EXHIBIT D

PHENYLEPHRINE HYDROCHLORIDE - phenylephrine hydrochloride injection, solution
American Regent, Inc.

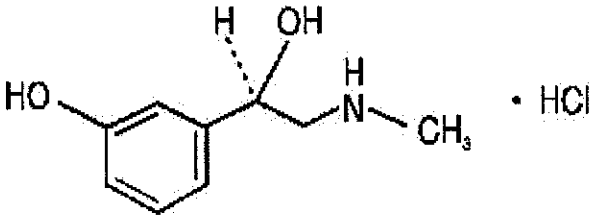
Rx Only
CONTAINS NO ANTIMICROBIAL PRESERVATIVE

WARNING

PHYSICIANS SHOULD COMPLETELY FAMILIARIZE THEMSELVES WITH THE COMPLETE CONTENTS OF THIS INSERT BEFORE PRESCRIBING PHENYLEPHRINE HYDROCHLORIDE INJECTION, USP.

DESCRIPTION

Phenylephrine Hydrochloride, a synthetic sympathomimetic agent, is a vasoconstrictor and pressor drug chemically related to epinephrine and ephedrine that is available as a sterile solution for parenteral injection. Each mL contains: phenylephrine HCl 10 mg, sodium metabisulfite 2 mg, sodium chloride 3.5 mg, sodium citrate (dihydrate) 4 mg, citric acid (anhydrous) 0.914 mg, water for injection q.s. pH (between 3.0 and 6.5) adjusted with citric acid and/or sodium hydroxide. Chemically, it is (-) - *m* - Hydroxy - α - [(methylamino)methyl] benzyl alcohol hydrochloride. The structural formula is as follows:



Molecular Formula: $C_9H_{13}NO_2 \cdot HCl$ Molecular Weight: 203.67

CLINICAL PHARMACOLOGY

Phenylephrine hydrochloride produces vasoconstriction that lasts longer than that of epinephrine and ephedrine. Responses are more sustained than those of epinephrine, lasting 20 minutes after intravenous and as long as 50 minutes after subcutaneous injection. Its action on the heart contrasts sharply with that of epinephrine and ephedrine, in that it slows the heart rate and increases the stroke output, producing no disturbance in the rhythm of the pulse.

Phenylephrine is a powerful postsynaptic alpha-receptor stimulant with little effect on the beta receptors of the heart. In therapeutic doses, it produces little if any stimulation of either the spinal cord or cerebrum. A singular advantage of this drug is the fact that repeated injections produce comparable effects.

The predominant actions of phenylephrine are on the cardiovascular system. Parenteral administration causes a rise in systolic and diastolic pressures in man and other species. Accompanying the pressor response to phenylephrine is a marked reflex bradycardia that can be blocked by atropine; after atropine, large doses of the drug increase the heart rate only slightly. In man, cardiac output is slightly decreased and peripheral resistance is considerably increased. Circulation time is slightly prolonged, and venous pressure is slightly increased; venous constriction is not marked. Most vascular beds are constricted; renal, splanchnic, cutaneous, and limb blood flows are reduced but coronary blood flow is increased. Pulmonary vessels are constricted, and pulmonary arterial pressure is raised. The drug is a powerful vasoconstrictor, with properties very similar to those of norepinephrine but almost completely lacking the chronotropic and inotropic actions on the heart. Cardiac irregularities are seen only very rarely even with large doses.

INDICATIONS AND USAGE

Phenylephrine hydrochloride is intended for the maintenance of an adequate level of blood pressure during spinal and inhalation anesthesia and for the treatment of vascular failure in shock, shocklike states, and drug-induced hypotension, or hypersensitivity. It is also employed to overcome paroxysmal supraventricular tachycardia, to prolong spinal anesthesia, and as a vasoconstrictor in regional analgesia.

CONTRAINDICATIONS

Phenylephrine hydrochloride should not be used in patients with severe hypertension, ventricular tachycardia, or in patients who are hypersensitive to it or to any of the components.

WARNINGS

If used in conjunction with oxytocic drugs, the pressor effect of sympathomimetic pressor amines is potentiated (see Drug Interactions). The obstetrician should be warned that some oxytocic drugs may cause severe persistent hypertension and that even a rupture of a cerebral blood vessel may occur during the postpartum period.

This product contains sodium metabisulfite, a sulfite that may cause allergic-type reactions including anaphylactic symptoms and life-threatening or less severe asthmatic episodes in certain susceptible people. The overall prevalence of sulfite sensitivity in the general population is unknown and probably low. Sulfite sensitivity is seen more frequently in asthmatic than in nonasthmatic people.

PRECAUTIONS
Phenylephrine hydrochloride should be employed only with extreme caution in elderly patients or in patients with hyperthyroidism, bradycardia, partial heart block, myocardial disease, or severe arteriosclerosis.

Drug Interactions
Vasopressors, particularly metaraminol, may cause serious cardiac arrhythmias during halothane anesthesia and therefore should be used only with great caution or not at all.

MAO Inhibitors
The pressor effect of sympathomimetic pressor amines is markedly potentiated in patients receiving monoamine oxidase inhibitors (MAOI). Therefore, when initiating pressor therapy in these patients, the initial dose should be small and used with due caution. The pressor response of adrenergic agents may also be potentiated by tricyclic antidepressants.

Carcinogenesis, Mutagenesis, Impairment of Fertility
No long-term animal studies have been done to evaluate the potential of phenylephrine hydrochloride in these areas.

Pregnancy

Teratogenic Effects
Pregnancy Category C. - Animal reproduction studies have not been conducted with phenylephrine hydrochloride. It is also not known whether phenylephrine hydrochloride can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. Phenylephrine hydrochloride should be given to a pregnant woman only if clearly needed.

Labor and Delivery
If vasopressor drugs are either used to correct hypotension or added to the local anesthetic solution, the obstetrician should be cautioned that some oxytocic drugs may cause severe persistent hypertension and that a rupture of a cerebral blood vessel may occur during the postpartum period (see **WARNINGS**).

Nursing Mothers
It is not known whether this drug is excreted in human milk. Because many are excreted in human milk, caution should be exercised when phenylephrine hydrochloride is administered to a nursing woman.

Pediatric Use
To combat hypotension during spinal anesthesia in children, a dose of 0.5 mg to 1 mg per 25 pounds of body weight, administered subcutaneously or intramuscularly, is recommended.

ADVERSE REACTIONS
Headache, reflex bradycardia, excitability, restlessness, and rarely arrhythmias.

OVERDOSAGE
Overdosage may induce ventricular extrasystoles and short paroxysms of ventricular tachycardia, a sensation of fullness in the head and tingling of the extremities.
Should an excessive elevation of blood pressure occur, it may be immediately relieved by a α-adrenergic blocking agent (e.g., phentolamine).
The oral LD_{50} in the rat is 350 mg/kg, in the mouse 120 mg/kg.

DOSAGE AND ADMINISTRATION
Phenylephrine hydrochloride is generally injected subcutaneously, intramuscularly, slowly intravenously, or in dilute solution as a continuous intravenous infusion. In patients with paroxysmal supraventricular tachycardia and, if indicated, in case of emergency, phenylephrine hydrochloride is administered directly intravenously. The dose should be adjusted according to the pressor response.
Dosage Calculations

Dose Required	***Use*** *Phenylephrine HCl Injection 1%*
10 mg	1 mL
5 mg	0.5 mL
1 mg	0.1 mL

For convenience in intermittent intravenous administration, dilute 1 mL phenylephrine hydrochloride 1% with 9 mL Sterile Water for Injection, USP, to yield 0.1% phenylephrine hydrochloride.

Dose Required	***Use Diluted*** *Phenylephrine HCl Injection 0.1%*
0.1 mg	

0.2 mg	0.1 mL
0.5 mg	0.2 mL
	0.5 mL

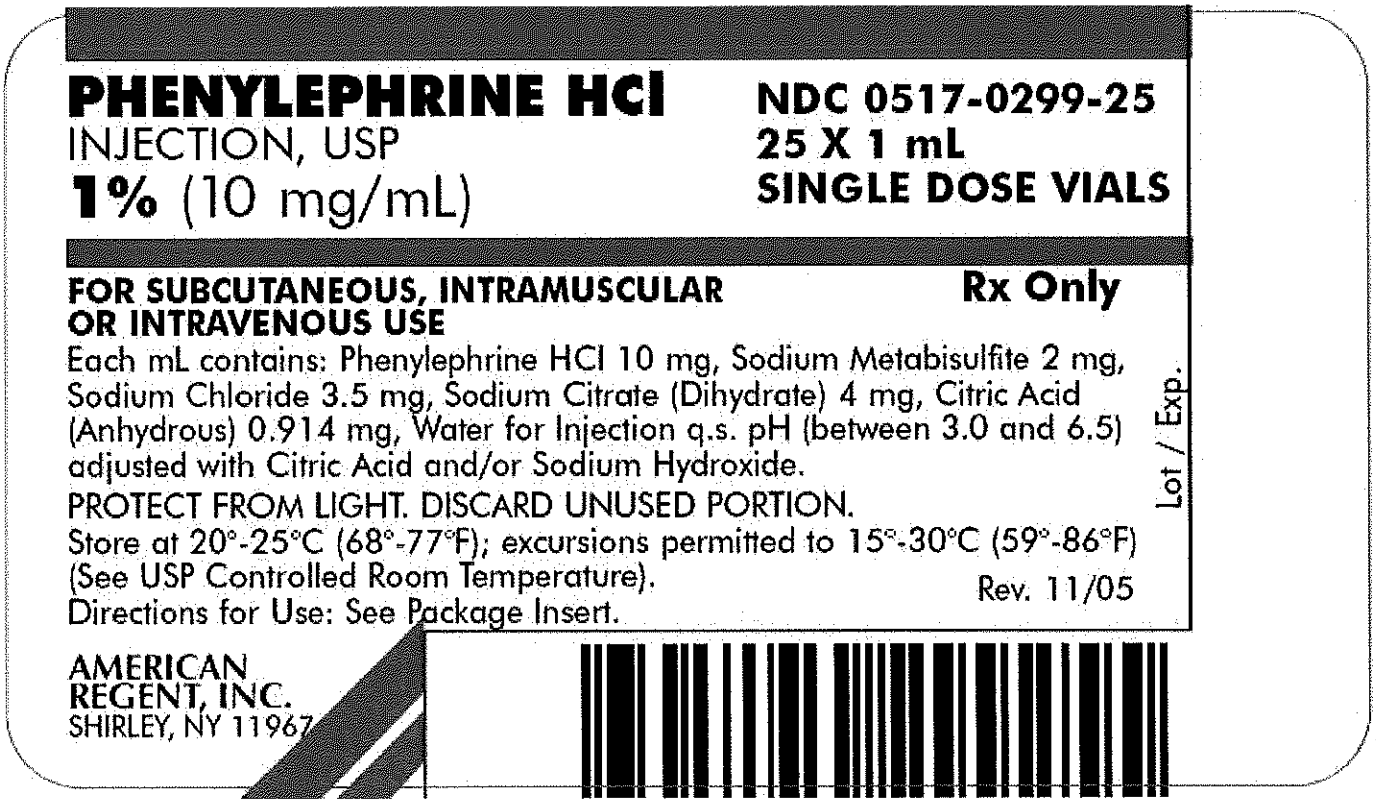
Mild or Moderate Hypotension Subcutaneously or Intramuscularly: Usual dose, from 2 mg to 5 mg. Range, from 1 mg to 10 mg. Initial dose should not exceed 5 mg.
Intravenously: Usual dose, 0.2 mg. Range, from 0.1 mg to 0.5 mg. Initial dose should not exceed 0.5 mg.
Injections should not be repeated more often than every 10 to 15 minutes. A 5 mg intramuscular dose should raise blood pressure for one to two hours. A 0.5 mg intravenous dose should elevate the pressure for about 15 minutes.
Severe Hypotension and Shock – Including Drug-Related Hypotension Blood volume depletion should always be corrected as fully as possible before any vasopressor is administered. When, as an emergency measure, intra-aortic pressures must be maintained to prevent cerebral or coronary artery ischemia, phenylephrine hydrochloride can be administered before and concurrently with blood volume replacement.
Hypotension and occasionally severe shock may result from overdosage or idiosyncrasy following the administration of certain drugs, especially adrenergic and ganglionic blocking agents, rauwolfia and veratrum alkaloids, and phenothiazine tranquilizers. Patients who receive a phenothiazine derivative as preoperative medication are especially susceptible to these reactions. As an adjunct in the management of such episodes, phenylephrine hydrochloride is a suitable agent for restoring blood pressure.
Higher initial and maintenance doses of phenylephrine hydrochloride are required in patients with persistent or untreated severe hypotension or shock. Hypotension produced by powerful peripheral adrenergic blocking agents, chlorpromazine, or pheochromocytomectomy may also require more intensive therapy.
Continuous Infusion – Add 10 mg of the drug (1 mL of 1 percent solution) to 500 mL of Dextrose Injection, USP, or Sodium Chloride Injection, USP (providing a 1:50,000 solution). To raise the blood pressure rapidly, start the infusion at about 100 µg to 180 µg per minute (based on 20 drops per mL this would be 100 to 180 drops per minute). When the blood pressure is stabilized (at a low normal level for the individual) a maintenance rate of 40 µg to 60 µg per minute usually suffices (based on 20 drops per mL this would be 40 to 60 drops per minute). If the drop size of the infusion system varies from the 20 drops per mL, the dose must be adjusted accordingly.
If a prompt initial pressor response is not obtained, additional increments of phenylephrine hydrochloride (10 mg or more) are added to the infusion bottle. The rate of flow is then adjusted until the desired blood pressure level is obtained. (In some cases, a more potent vasopressor, such as norepinephrine bitartrate, may be required.) Hypertension should be avoided. The blood pressure should be checked frequently. Headache and/or bradycardia may indicate hypertension. Arrhythmias are rare.
Spinal Anesthesia – Hypotension Routine parenteral use of phenylephrine hydrochloride has been recommended for the prophylaxis and treatment of hypotension during spinal anesthesia. It is best administered subcutaneously or intramuscularly three or four minutes before injection of the spinal anesthetic. The total requirement for high anesthetic levels is usually 3 mg, and for lower levels, 2 mg. For hypotensive emergencies during spinal anesthesia, phenylephrine hydrochloride may be injected intravenously, using an initial dose of 0.2 mg. Any subsequent dose should not exceed the previous dose by more than 0.1 mg to 0.2 mg and no more than 0.5 mg should be administered in a single dose. To combat hypotension during spinal anesthesia in children, a dose of 0.5 mg to 1 mg per 25 pounds body weight, administered subcutaneously or intramuscularly, is recommended.
Prolongation of Spinal Anesthesia The addition of 2 mg to 5 mg of phenylephrine hydrochloride to the anesthetic solution increases the duration of motor block by as much as approximately 50 percent without any increase in the incidence of complications such as nausea, vomiting, or blood pressure disturbances.
Vasoconstrictor for Regional Analgesia Concentrations about ten times those employed when epinephrine is used as a vasoconstrictor are recommended. The optimum strength is 1:20,000 (made by adding 1 mg of phenylephrine hydrochloride to every 20 mL of local anesthetic solution). Some pressor responses can be expected when 2 mg or more are injected.
Paroxysmal Supraventricular Tachycardia Rapid intravenous injection (within 20 to 30 seconds) is recommended; the initial dose should not exceed 0.5 mg, and subsequent doses, which are determined by the initial blood pressure response, should not exceed the preceding dose by more than 0.1 mg to 0.2 mg, and should never exceed 1 mg.

HOW SUPPLIED
Phenylephrine HCl Injection, USP 1% (10 mg/mL)

NDC 0517-0299-25	1 mL Single Dose Vial	packaged in boxes of 25
NDC 0517-0405-25	5 mL Vial*	packaged in boxes of 25

***FOR PHARMACY USE ONLY**
Store at 20°-25°C (68°-77°F); excursions permitted to 15°-30°C (59°-86°F) (See USP Controlled Room Temperature).
Protect from light. FOR SINGLE USE ONLY. Discard unused portion.
AMERICAN
REGENT, INC.
SHIRLEY, NY 11967
IN0299
Rev. 11/05

PACKAGE LABEL.PRINCIPAL DISPLAY PANEL
PRINCIPAL DISPLAY PANEL – 1 mL Carton
PHENYLEPHRINE HCl
INJECTION, USP
1% (10 mg/mL)
NDC 0517-0299-25
25 X 1 mL
SINGLE DOSE VIALS
FOR SUBCUTANEOUS, INTRAMUSCULAR OR INTRAVENOUS USE
Rx Only
Each mL contains: Phenylephrine HCl 10 mg, Sodium Metabisulfite 2 mg, Sodium Chloride 3.5 mg, Sodium Citrate (Dihydrate) 4 mg, Citric Acid (Anhydrous) 0.914 mg, Water for Injection q.s. pH (between 3.0 and 6.5) adjusted with Citric Acid and/or Sodium Hydroxide.
PROTECT FROM LIGHT. DISCARD UNUSED PORTION.
Store at 20°-25°C (68°-77°F); excursions permitted to 15°-30°C (59°-86°F) (See USP Controlled Room Temperature).
Directions for Use: See Package Insert.
AMERICAN
REGENT, INC.
SHIRLEY, NY 11967
Rev. 11/05



PRINCIPAL DISPLAY PANEL – 5 mL Carton
PHENYLEPHRINE HCl
INJECTION, USP
1% (10 mg/mL)
(50 mg/5 mL)
NDC 0517-0405-25
25 x 5 mL VIALS
FOR PHARMACY USE ONLY
FOR SUBCUTANEOUS, INTRAMUSCULAR OR INTRAVENOUS USE
CONTAINS NO ANTIMICROBIAL PRESERVATIVE
Rx Only
Each mL contains: Phenylephrine HCl 10 mg, Sodium Metabisulfite 2 mg, Sodium Chloride 3.5 mg, Sodium Citrate (Dihydrate) 4 mg, Citric Acid (Anhydrous) 0.914 mg, Water for Injection q.s. pH (between 3.0 and 6.5) adjusted with Citric Acid and/or Sodium

Hydroxide. PROTECT FROM LIGHT. DISCARD UNUSED PORTION. FOR SINGLE USE ONLY. Store at 20°-25°C (68°-77°F); excursions permitted to 15 °-30°C (59°-86 °F) (See USP Controlled Room Temperature).
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SHIRLEY, NY 11967
Rev. 11/05

PHENYLEPHRINE HCl
INJECTION, USP
1% (10 mg/mL)
(50 mg/5 mL)

NDC 0517-0405-25
25 x 5 mL VIALS
FOR PHARMACY USE ONLY

FOR SUBCUTANEOUS, INTRAMUSCULAR OR INTRAVENOUS USE
CONTAINS NO ANTIMICROBIAL PRESERVATIVE

Rx Only

Lot / Exp.

Each mL contains: Phenylephrine HCl 10 mg, Sodium Metabisulfite 2 mg, Sodium Chloride 3.5 mg, Sodium Citrate (Dihydrate) 4 mg, Citric Acid (Anhydrous) 0.914 mg, Water for Injection q.s. pH (between 3.0 and 6.5) adjusted with Citric Acid and/or Sodium Hydroxide. PROTECT FROM LIGHT. DISCARD UNUSED PORTION. FOR SINGLE USE ONLY. Store at 20°-25°C (68°-77°F); excursions permitted to 15°-30°C (59°-86°F) (See USP Controlled Room Temperature).
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